

**Remarks by the Honorable Fred Gregory
NASA Deputy Administrator
Invention of the Year Award Ceremony
NASA Headquarters
September 16, 2005**

Thank you Mike (Mike Wholley) and welcome ladies and gentlemen.

It's always a pleasure to do an event with Mike, because one day in the near future, I'm just certain he will be named first Chief Justice for the Moon. And I look forward to testifying—positively I might add—at his confirmation hearing.

I always look forward to the Invention of the Year awards, as this is such a great opportunity for the NASA General Counsel's Office and the Inventions and Contributions Board, led this year by our new Associate Administrator Rex Geveden, to shine.

And of course it provides an opportunity to recognize and celebrate the creative thinking and teamwork that makes NASA in my mind the world's preeminent research and exploration organization.

While I believe the fundamental purpose of our space exploration activities is to explore the unknown so we can gain a foothold in new worlds, I'm also confident that NASA's pioneering exploration activities will continue to help fuel American creativity, innovation and technology development.

Indeed, throughout the agency's history, technologies developed to advance our exploration missions, such as this year's honored inventions, have boosted economic progress and benefit millions of people here on Earth.

NASA innovations provide strong evidence that a vigorous space exploration program has and will continue to provide the American public with an impressive technological return on investment.

I think it's fascinating that in the Intellectual Property Owners Association most recent ranking of the top 300 organizations receiving U.S. patents, NASA ranks in terms of government organizations only behind the Navy, Army and Department of Health and Human Services for the number of patents awarded. Given our lower share of annual research spending that's a phenomenal record.

Today, we're honoring the inventors responsible for two outstanding inventions that are helping to tangibly advance our mission goals.

The Government Award this year goes to the research team from the Glenn Research Center in Cleveland that successfully developed a new thermal barrier and Space Shuttle solid rocket motor joint design.

We recognize Dr. Bruce Steinetz, a two time invention of the year honoree, and Patrick Dunlap for this innovation, a unique, flexible, braided carbon-fiber thermal barrier designed to withstand the extreme-temperature environments in solid rocket motors and other industrial equipment.

According to the Inventions and Contributions Board, the value to our country of this invention is about one-quarter billion dollars. But you can not put a price tag on the lives it protects, by helping to make our Space Shuttle solid rocket boosters function safely.

As many of you know, I was the Capcom on the day that my friends onboard the Challenger launched nearly 20 years ago. To know that our award winners have devoted their efforts to this critical innovation means a great deal to me.

The revolutionary new thermal barrier they've designed will solve on future Shuttle missions the vexing problem of blocking 5,500-degree Fahrenheit rocket-combustion gases from reaching temperature-sensitive O-rings, while still allowing 900 pound-per-square-inch gases to properly seal them.

This has been a problem challenging rocket motor designers for decades. I congratulate you for this great advancement.

Our Commercial Award goes this year to Dr. Ruth Pater, of NASA's Langley Research Center. We honor Ruth for developing a state-of-the-art, environmentally friendly high-temperature resin with numerous government and commercial applications.

The resin is called LARC(TM) RP46 and it is simply the highest temperature plastic known to mankind. Now surely we can come up with a better name for it. Let me suggest "Ruth's resin."

I'm told the resin is relatively inexpensive, and it can be readily processed into a high-quality graphite-fiber-reinforced composite. The resin can be used in temperatures ranging from minus 150 degrees to 700 degrees Fahrenheit, and hot spikes up to 1,500 degrees Fahrenheit for short periods.

The composite material can push the service temperature to the limits of organic materials. It also gives a competitive edge in applications requiring very high temperature, lightweight, high strength, chemical and moisture resistance. The resin can also be used as an adhesive, molding, coating, foam or film. That's a lot of uses for one product.

Commercial applications for this invention include automotive transportation, defense, sporting goods, electronics, oil drilling and civil engineering.

Commercialization of the polyimide in these market sectors is being pursued through Unitech, LLC, Hampton, Va., under a non-exclusive license from NASA.

And in the government sector, emerging systems, such as the next generation reusable launch vehicle, U.S. Air Force F-22 Raptor fighter, the Joint Strike Fighter, and many other defense and commercial systems, will contain components manufactured from Ruth's product. So congratulations on a job well done.

In conclusion, let me point out once more that these inventions standing in a long line of wonderful NASA innovations that have helped the agency advance our mission goals, and find beneficial use in broader society. We are very fortunate to have people the caliber of Bruce Steinetz, Patrick Dunlap and Ruth Pater on the NASA team.

Thank you again for your outstanding work and
congratulations once again.